AberdeenGroup

Dell Asset Recovery Services: Remove, Recycle, or Resell

An Executive White Paper

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Executive Introduction

C-level executives are ever vigilant in searching out ways to cut costs and increase efficiencies. They have discovered that the decidedly unglamorous issue of information technology (IT) asset disposition represents what amounts to a green field opportunity in large organizations.

As companies race to keep their technological edge competitive, energy is focused on the front end of any product life cycle. By its very nature, acquisition is more interesting than disposition. But this influx of technology creates a corresponding and often overlooked increase in decommissioned IT assets. As a result, outdated PCs, monitors, and other IT equipment tend to quietly pile up in storage.

For the most part, underused, decommissioned IT equipment remains out of sight and out of mind. But these rapidly depreciating, aged assets can pack a major financial punch. Aberdeen research concludes that any organization annually removing as few as 3,000 PCs can save $1 million per year in unnecessary storage and disposal costs by implementing an effective asset disposition program. Perhaps even more importantly, such programs carry the added benefit of reducing business risk.

Conceived and executed effectively, an IT asset disposition program will predictably benefit an organization in three distinct areas:

- *Cost/value* — If stored IT equipment has any resale or recycling value, it depreciates between 6% and 10% per month. If there is no current value, the equipment — which will someday need to be disposed — constitutes a pure storage cost in the meantime. Either way, the sooner that equipment is dispatched, the greater the financial gain.
- *Data security* — PC and server hard drives contain sensitive data (e.g., medical records, financial data, customer or employee data). Publicized cases abound of such data casually falling into the hands of strangers in the secondary market. Thus, the recent case of the state of Kentucky's ill-fated discarding of hard drives containing records of thousands of patients diagnosed with AIDS and sexually transmitted diseases, though sensational, is not unusual. This example raises the issue of governmental regulations such as HIPAA and the specter of corporate espionage and intellectual property put at risk. Effective sanitization of drives is labor intensive, but it greatly reduces a foreseeable business risk.
- *Environmental concerns* — Obsolete electronic devices, or "e-waste," all contain materials that are not welcome in dumpsters or landfills. E-waster materials that are increasingly coming under local, state, and. federal regulations. The ability to track and comply with this changing

maze of regulations is beyond the core competence of most organizations. Green-friendly behavior is no longer a responsible or nice thing to do. It is essential.

This Aberdeen *White Paper* examines the issues surrounding IT asset disposition in further detail and offers some best practice recommendations. The paper also considers Dell Computer's Asset Recovery Services (ARS) in light of the issues and practices surfaced in the body of the piece. Aberdeen concludes that the value proposition of a well-executed IT asset disposition program will be compelling to organizations of all sizes.

"Caveat Dumpster" — The Scope of the Challenge

In the not too distant past, IT asset disposition generally meant some combination of long-term storage, ad hoc dumping, and donation to worthy or willing organizations. The difference between that past and this present is the sheer volume of assets and the changing rigors of securely and environmentally safely disposing of equipment. Environmental regulations and privacy legislation at the federal, state, and local levels are on the rise with no sign of slowing. Few organizations have as a core competence the ability to track and comply with this labyrinth of legislation.

Data Security and Privacy

Keeping pace with this increase in legislation is a corresponding increase in litigation. A jury in Morgantown, WV, recently awarded $2.3 million to three women whose confidential mental health records were not kept private.[1] If this single jury award were multiplied by the incidents of confidentiality compromised by retired IT assets, the result would be a large pool of potential liability.

The *New York Times* reported that a woman in Nevada purchased a used PC for $159, only to discover that it held more than 2,000 patient records from a pharmacy in Arizona. Included in these records were names, addresses, Social Security numbers, and a telling list of medications pointing to conditions such as AIDS, alcoholism, and depression.

As if these considerations were not sufficient cause for concern, the watchdog group Business Software Alliance (BSA) weighed in on September 2003 at bsa.com: "If a company breaches its software license agreements by copyright infringement, or if old software falls into unlicensed hands, the company getting rid of the software and the recipient could face legal action that includes paying penalties of thousands of [dollars]."

[1] *The HIPAA Advisory* (February 27, 2003)

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Such breaches constitute fertile ground for litigious activities. The primary culprit in all such stories is improper disk sanitization of IT equipment that is headed into the secondary market of refurbishment, recycling, and resale.

In January 2003, two MIT graduate students, Simson Garfinkel and Abhi Shelat, published their findings regarding data cleansing in the secondary market. They bought 158 drives from used computer equipment retailers and eBay-like auctions. One hundred twenty-nine were functional, and of those, only 12% had been properly sanitized. The rest surrendered sensitive information to recovery techniques that are readily available to any skilled IT professional. Information consisted of 675 Word documents, 566 PowerPoint presentations, 5,000 credit card numbers, and 9,500 e-mail messages, as well as love letters, pornography, and highly sensitive corporate information. It is reasonable to assume that the relative proportion of properly and improperly cleansed drives holds true overall.

If security is a top concern, the only certain means of securing data is the total destruction of any drive. However, this method results in the waste of equipment that still has value. The only commercially viable method for eliminating data is to overwrite every sector of each hard drive multiple times employing random patterns. Unfortunately, the time and cost of sanitizing any sizable number of drives quickly exceed any reasonable cost/benefit analysis. A partnership with a trusted third-party asset reclamation specialist will provide an informed balance between sanitization of disks for which value can be extracted and appropriate disposal of those that have no value.

Environmental Concerns

"According to one estimate [from the National Safety Council], the 315 million old PCs ready to be junked by 2004, if piled together, would create a mile-high mountain of high-tech waste with the girth of a football field. What's more, that mountain would contain an estimated 1 billion pounds of lead and untold quantities of mercury, cadmium, and PVC."[2]

Whatever the actual number of devices may be, it is indisputable that the number is high and growing. The dark side of Moore's Law is a concomitant increase in equipment that is seen as outdated or competitively challenged — e-waste:

- In 1999, 34,000 tons of electronic waste was disposed of in Canadian landfills and dumps, and 67,000 tons will be disposed of by 2005.[3]
- Only 11% of the 315 million computers rendered obsolete by 2004 will be recycled in the U.S. (National Safety Council estimate).

[2] "Beyond the Grave," *IndustryWeek* (Cleveland: Penton Media, Inc., March 1, 2002)

[3] According to Enviros RIS, a Canadian environmental consulting firm

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- Seventy percent of heavy metals in U.S. garbage dumps are from electronics (according to the EPA).

This "e-waste" stream is one of the industrialized world's fastest growing sources of toxic waste — a fact that is coming under increased governmental scrutiny. Numerous states have or are considering a ban on disposing old monitors in landfills, and large businesses are already prohibited from sending computers to landfills. The European Council (EC) passed legislation to outlaw illegal dumping of IT equipment. Its Waste Electrical and Electronic Equipment (WEEE) order takes effect in August 2005. Yet few enterprises have compliance plans to date.

Devices dumped illegally — whether by the originating company, charitable organization, or disreputable third party — can be traced back to the original company with fines and penalties applicable despite the best of intentions. Aberdeen expects that the legally acceptable level of e-waste tolerance will continue to tighten. As the requirements for disposal become more strict, it is possible that companies will be held retroactively accountable for their behavior.

Aberdeen recommends that enterprises not leave IT asset disposition to chance or to IT generalists. There is too much at stake in the fast changing multiplicity of regulations for any organization to acquire the necessary expertise on a casual basis. Rather, partnering with a specialist in end-of-life IT asset disposition will prove to be a cost-effective — as well as a wise — exercise in corporate stewardship.

Of Costs and Values

The second-hand market is real, big, and growing. In October 2002, *CIO* magazine reported that 77% of IT executives purchase secondary market equipment, and 46% plan to increase their spending in that area by at least 15%. Decommissioned IT assets have potential value.

Time Is Money

Timing is a critical element in reclaiming value. So the sooner IT assets are sold off, the more economic value they retain. For example, the residual value of PCs declines approximately 6% to 10% a month. To avoid a hard cash expense, an asset must be sold at a recovery price that is at least equal to the disposal cost.

The opportunity to sell an IT asset in the used equipment or secondary market evaporates when the asset's value drops below the cost of disposal. Aberdeen research indicates that this moment comes much sooner than either IT managers or common financial depreciation tables predict. Research by Aberdeen Group, Intel, and Siemens Business Services suggests that the right time to dispose of a PC is at around the 36-month mark rather than the 48 months that many corporations have adopted as the standard.

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The all-too-common practice of stacking up old PCs and monitors leaving them to collect dust simply does not make economic sense. But it does hold a human logic. Out of sight and out of mind, this silent stack of potential hassle and value is not high on anyone's radar screen for accountability.

The traditional "sunk purchase cost" mentality ignores disposal costs that will be incurred in the future — costs that will do nothing but increase over time. It also ignores the hidden costs of storing technology — costs such as insurance and property taxes still being paid on old assets, as well as storage fees and the administrative costs of tracking old equipment. Furthermore, few organizations have a very clear picture of the sheer volume at hand.

The first step is to identify obsolete assets and assign retained value to each one. Should it be sold or recycled? Few enterprise organizations have ongoing, direct knowledge of the used equipment market, nor do they typically have relationships with brokers and dealers who do. So an experienced partner will be invaluable in navigating the shoals of the secondary market.

Counting the Costs

The costs of bringing IT assets to the secondary market or to another safe disposition may be approximated as follows:

- *Data cleansing/sanitization of hard drives* — This critical task is expensive to perform and is frequently performed incorrectly. The cost associated with disk-cleansing operation varies greatly, depending on disk size and type, the degree of automation in place, and management of the process (testing, documentation, and reporting). Excluding enterprises that have expended a significant capital investment in specialized equipment to automate disk cleaning on a large scale, Aberdeen estimates that data cleansing will range from a low of $50 to an average of $126 per disk cleansed.
- *Recycling* — A device can be de-manufactured into its component parts, which may then be resold. Revenue earned from components, scrap parts, and raw material can be used to defray the costs of de-manufacturing and selling. The costs of such recycling efforts depend on the complexity and currency of a device, but may be estimated at a range of $25 to $50.
- *Packing/moving* — There is always a real cost in labor and material associated with getting an IT asset packed, moved to the loading dock for pickup, and delivered to its final destination. The costs are highest when a device is particularly bulky or heavy; when the retained value requires cautious, specialized packaging and documentation; or when union employees perform the tasks. The costs can be estimated at an infrequent low of $12 to a more probable average of $132 per unit.

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- *Sales* — Selling IT assets in the secondary market requires specialized knowledge of and access to brokers and dealers in this market. The assets must be refurbished and tested for proper operation — then sold and shipped. Depending on the scale of operation, the cost per device can range between $25 and $67.
- *Verification/documentation* — Removal of asset tags eliminates corporate identity from physical assets. Detailed records should provide the exact disposition of each asset by serial number or asset tag. Such records demonstrate that an enterprise follows a standard practice for disposing of e-waste and protect the entity from potential litigation. The cost of this level of reporting ranges from $3 to $12 per device.

With no consideration given to the effectiveness with which an enterprise will execute an asset recovery program, the steps as enumerated above result in a reclamation cost of between $115 and $387 per device.

Dell Asset Recovery Services

Dell's suite of services for disposition of decommissioned IT assets allows customers to choose whether to resell or recycle computer equipment. With the tag line "Remove, Recycle, or Resell Used Equipment," Dell's ARS cover desktops, notebooks, servers, storage or networking devices, monitors, printers, projectors, and computer peripherals, such as keyboards and mice. Dell will transport and dispose of any IT asset from any manufacturer.

Recognizing the variation in demand in its client base, Dell offers its customers the choice to audit and package its hardware for shipment (customer pre-packed) or request that Dell program manage the service (program managed). There are different price points associated with each logistics option.

The customer-pre-packed option calls for customers to box or palletize used equip-ment and consolidate it on a ground-floor location for pickup. The program-managed option leaves all of the logistics to Dell, including the gathering and packing of equipment. Customers with multi-floor or multi-location pickups frequently choose this option. An ARS project manager works with the client and a sales representative to design the most effective logistics solution, including any special logistics requirements that may call for a customized bid.

Dell offers two distinct solutions for disposing of used IT equipment:

- *Value Recovery* — When an organization has reason to believe that its used equipment has some residual value, it will choose this option. Dell sells an asset and returns to the customer money from that sale according to a prepublished schedule of value. The cost is $59 per system unit (a two-piece bundle containing, for example, a PC and a monitor) when

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a customer has pre-packed the device or $69 per system unit if the client elects to have Dell program manage the whole operation.

- *Recycling* — When equipment has little or no value — as is common in assets more than four years old — customers choose this option. For $49 per customer-packaged system or $59 per Dell program-managed system, Dell removes and recycles used equipment.

Both services include transportation of the equipment, flexible logistics in which the customer chooses the approach, equipment disposition, and detailed reports about data security and compliance with environmental requirements. Upon completion of equipment's resale or recycling, the customer receives two reports:

1. *Settlement Report* — This report lists each specific piece of resold hardware's resale value and documents any recycled equipment.
2. *Certificate of Disposal* — This report verifies that hard disk data was overwritten and that any inoperable disks were shredded. (Nonworking disks cannot be overwritten. Nonetheless, information can be retrieved from them with the use of specialized equipment and expertise. Hence, the need to shred them.) This report also verifies that any recycling was done in accordance with EPA guidelines.

Dell's ARS bring a range of benefits to its customers at a flat rate. Predictable and flexible, the services provide a single point of contact for end-of-life IT asset management. Offering end-to-end visibility into the process, Dell's detailed security and environmental reports free enterprises to concentrate on core business issues.

More than hassle free (which it is), the ARS program is a professional approach to decreasing costs, increasing value, and reducing liability. It just makes sense. Moreover, with Dell's span of control in the market, as well as its geographical presence, the company can be counted on to perform in a way that is affordable, that holds Dell accountable and auditable for its performance, and that makes the company easy to work with.

Perhaps it is not necessary to state the obvious. However, Dell's service cost is justifiable under the most conservative of scenarios. Aberdeen earlier built price models that placed asset disposal costs at between $115 and $387. If Aberdeen's lowest scenario were halved, Dell's pricing would still be attractive. In combination with the other benefits, the proposition is compelling.

Aberdeen Conclusions

Decommissioned IT assets abound and will continue to be retired at a fast pace and high volume. Efficiency in recovering those IT assets — whether recycling or reselling — can be achieved only through large-volume operations.

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And when it comes to reselling, knowledge of and competence in the market are required, as is the ability to track and adhere to a complex maze of local, state, federal, and international regulations. These prerequisites do not map to the core competency of most enterprises. However, in the absence of a well-turned plan to execute in this environment, organizations will spend too much money for too little returned value and still expose themselves to the ramifications of improper or inadequate data security and disposal.

The benefits of partnering with a trusted partner — an expert in all aspects of the IT asset landscape — are too high to ignore. So also are the potential exposures of choosing and executing poorly. This is a corporate decision. But it is one that should be made with the clear knowledge that no enterprise can match an international asset recovery specialist in efficiency, effectiveness, or cost.

Dell is known for providing the best value for the money to both enterprises and individuals. The company has become a trusted partner to many global giants and has earned a reputation for customer service and satisfaction. These distinctives will serve the company well in the Dell ARS offerings.

Dell ARS extend Dell's customer partnership into the asset end-of-life cycle with a program that delivers high-quality disposal services at a price that can save an enterprise significant amounts of real time and money. In the course of recognizing these savings, the Dell ARS program makes it cost-effective for corporations to support environmental concerns.

From any vantage point, this service presents a simple and compelling value proposition that is well worth acting on.

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Aberdeen Group is a computer and communications research and consulting organization closely monitoring enterprise-user needs, technological changes, and market developments.

Based on a comprehensive analytical framework, Aberdeen provides fresh insights into the future of computing and networking and the implications for users and the industry.

Aberdeen Group performs projects for a select group of domestic and international clients requiring strategic and tactical advice and hard answers on how to manage computer and communications technology. This document is the result of research performed by Aberdeen Group that was underwritten by Dell. Aberdeen Group believes its findings are objective and represent the best analysis available at the time of publication.